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etals such as calcium and strontium, and platinum on tungstated zirconia in a 4:5 volume ratio to effect catalysis of the isomerization and the separation of the products and reactants through adsorption. Preferably, the fixed bed pressure swing adsorption and reaction zone of the present invention contains a physical mixture of the catalyst and the adsorbent. More preferably, the fixed bed pressure swing adsorption and reaction zone of the present invention contains a homogeneous mixture of catalyst and adsorbent. The catalyst and adsorbent may be present as separate particles, or the adsorbent and catalyst may be combined into a single particle comprising both the catalyst and adsorbent. The single particle may comprise layers of catalyst and adsorbent such as layered particle having a core of adsorbent and an outer layer of catalyst.

Those skilled in the art will appreciate that the high pressure adsorption step of the PSA process comprises introducing the PSA feedstream to the feed end of the adsorbent bed at a high adsorption pressure. The less readily adsorbable component(s) passes through the bed and is discharged from the effluent or produce end thereof. Adsorption fronts comprising the more adsorbable component(s) are established in the bed with the fronts likewise moving through the bed from the feed end toward the product end thereof. When the feedstream contains a less readily adsorbable component and a more readily adsorbable component, a leading adsorption front of the more readily adsorbable component will be established and will move through the bed in the direction of the product or discharge end thereof.

Referring to FIG. 1, a schematic diagram of a process flow diagram of the

principal channels with
openings defined by a ring of at least 10 oxygen atoms and
secondary channels
with openings defined by a ring of at least 12 oxygen
atoms. The secondary
channels is accessible to the feed to be separated only via
the principal
channels. The separation section comprises at least one
unit and produces at
least two fluxes.

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